

LISTING OF CLAIMS

1. (original) A digital peak discriminator, comprising:
  - (a) a peak register connected to receive a discrete pulse signal at its data input;
  - (b) a subtractor connected to receive said discrete pulse signal at its adding input;
  - (c) said peak register connected so that its output is an input to the subtracting input of said subtractor and is applied to the data inputs of maximum and minimum peak value latches;
  - (d) the output of said subtractor is connected so that its output provides inputs to a comparator and to an exclusive OR gate;
  - (e) said exclusive OR gate is connected so that its output is applied to the enable input of said peak register;
  - (f) a noise threshold digital value is applied to one of the inputs of a data multiplexer and to the input of a negating and scaling unit, the output of which negating and scaling unit is applied to the other input of said data multiplexer;
  - (g) said multiplexer is connected so that its output is an input to said comparator;
  - (h) said comparator is connected so that its output is a data input to a flip-flop;
  - (i) said flip-flop is connected so that its output is applied to the selecting input of said data multiplexer, to an input of said exclusive OR gate, and to the latching inputs of said maximum and minimum peak value latches, and provides a peak detect signal.
2. (cancelled)

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3. (cancelled)

4. (cancelled)

5. (cancelled)

6. (cancelled)

7. (cancelled)

8. (cancelled)

9. (cancelled).

10. (cancelled)

11. (previously presented) A method of tracking peaks in an input signal by means of a tracking system that can be in either a state for tracking maxima of input signal or a state for tracking minima of said input signal, said method comprising the steps of:

- (a) tracking said maxima of said input signal, continuously comparing the values of said maxima with the values of said input signal;
- (b) changing state to state for tracking minima only if and when difference between said tracked values of maxima and said values of said input signal is greater than a predetermined threshold;
- (c) simultaneously with said change of state, storing said maximum value of said input signal in a maximum holding register;
- (d) tracking said minima of said input signal until difference between said tracked values of minima and said values of said input signal are greater than a predetermined threshold; and
- (e) changing the state to state for tracking maxima, and simultaneously with said change of state, storing said minimum value of said input signal in a minimum holding register.